

**REMARKS**

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1-4 and 6-17 are pending. No new matter has been added. For instance, the amendment to claim 1, as well as new claim 15, are supported by the present Specification at, for example, page 17, lines 3-12. Lastly, new claims 16 and 17 are supported by page 15, lines 12-14. Thus, no new matter has been added.

In view of the amendments and remarks herein, the Examiner is respectfully requested to withdraw all rejections and allow the currently pending claims.

**Issues Under 35 U.S.C. 102(b)**

Claims 1-4, 6, 8, 9 and 11 stand rejected under 35 U.S.C. 102(b) as anticipated by Shio (WO 98/14399; U.S. 6,511,668) (hereinafter “Shio”). Applicants respectfully traverse.

The Examiner asserts that Shio discloses mesoporous silica and associated compositions that are useful as a carrier for cosmetics, pharmaceutical drugs and perfumes. The Examiner further asserts that Shio discloses that the silica has a hexagonal structure and a specific surface area of 900 to 1100 m<sup>2</sup>/g.

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of anticipation. For anticipation under 35 U.S.C. §102, the reference must teach each and every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.

*In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993). To establish inherency, the

extrinsic evidence "must make clear that the missing descriptive matter is necessarily present". *In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999). The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *Id.*

As amended, the present invention is directed, *inter alia*, to a substance-supporting porous silica, wherein the porous silica is obtained by a process comprising mixing water glass with an organic raw material, supports a substance selected from the group consisting of menthols, volatile substances, thermal substances, plant polyphenols and organic colorants, and has a specific surface area of from 400 to 1500 m<sup>2</sup>/g, and wherein the pore of the porous silica forms a hexagonal structure (see, e.g., claim 1). See also claim 15 wherein the porous silica is defined as comprising an organic raw material and water glass. Applicants respectfully submit that Shio fails to explicitly or implicitly disclose a substance-supporting porous silica as claimed.

Specifically, Applicants submit that the porous silica of Shio is not obtained by a process comprising mixing water glass with an organic raw material as presently claimed (see, e.g., claim 1). Further, the porous silica of Shio does not comprise water glass as a raw material as claimed (see, e.g., claim 15).

In view of the above, reconsideration and withdrawal of this rejection are respectfully requested.

Issues Under 35 U.S.C. 103(a)

Claims 1, 7, 10 and 12-14 stand rejected under 35 U.S.C. 103(a) as obvious over Shio in view of secondary references (Yoshimoto '452, Terase '120 and Anderson '469). Applicants respectfully traverse.

As discussed above, Shio fails to teach a porous silica as claimed. Moreover, one skilled in the art would not have been motivated to modify the teachings of Shio as proposed.

The mesoporous silica of Shio has a rod-like structure, containing many macro-pores between particles, causing an immediate release of adsorbed perfume, so that a sustained release effect cannot be expected therefrom. On the other hand, the porous silica of the present invention, comprising water glass, contains a smaller number of macro-pores, and consequently, exhibits superior properties (e.g., excellent sustained release).

It is considered that such a considerable difference in the structures of both of the porous silicas are due to the difference in the raw materials used. Specifically, the raw material of the porous silica of the present invention is water glass, which has an SiO<sub>2</sub>/Y<sub>2</sub>O ratio of 2 or more. By contrast, the raw material for the rod-like mesoporous silica in Shio is a silicate that has an SiO<sub>2</sub>/Y<sub>2</sub>O ratio satisfying : 0 < SiO<sub>2</sub>/Y<sub>2</sub>O ratio < 2 (see, for example, column 4, lines 28 to 57 of Shio).

The Examiner's attention is respectfully directed to the enclosed Declaration under 37 C.F.R. 1.132, which shows the superior and unexpected properties exhibited by the presently claimed porous silica. As discussed therein, when perfume is added to a rod-like mesoporous silica powder, the presence of a large number of macro-pores in the gap between the mesoporous silica particles causes weak adsorption in the gap or space. Since the macro-pores occupy a larger

space as compared to the size of the perfume molecules, the adsorption is so weak that sufficient sustained-release effects cannot be obtained after the adsorption. However, it is possible to obtain sufficient sustained-release effects when a perfume such as menthol is supported within the pores of the porous silica as described in the present invention.

It has already been shown above that Shio fails to teach or suggest the limitations of claim 1 of the present invention. The secondary references fail to cure any of the deficiencies of Shio. Therefore, there can exist no *prima facie* case of obviousness with respect to claim 1 and dependent claims thereof. The Examiner is therefore requested to withdraw this rejection.

**Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos, Reg. No. 61,158, at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated:

Respectfully submitted,

By \_\_\_\_\_

Craig A. McRobbie  
Registration No.: 42,874  
BIRCH, STEWART, KOLASCH & BIRCH, LLP  
8110 Gatehouse Road  
Suite 100 East  
P.O. Box 747  
Falls Church, Virginia 22040-0747  
(703) 205-8000  
Attorney for Applicant

Attachment: Declaration under 37 CFR 1.132